

Author Index

Volume 48, 1991

- A. A. Abboud see M. A. Ibrahim
 A. A. Abboud see R. A. Rashed
 M. M. Abdel Hady see F. W. Abdel-Salam
 F. W. Abdel Salam, H. M. Hosny, and M. M. Abdel Hady, Cairo (Egypt): Types of field Compensations used to Alleviate the Beam Undulations in Long Period Magnet Focusing. Abstract 612
 S. S. Abdel-Aziz see A. Osman
 M. M. Abdel-Kader, F. El-Kabbany, S. M. Sayyah, S. A. Nasser, and E. H. El-Kalla, Cairo (Egypt): Effect of I^- -Radiation on the Dielectric Constant of PMMA Modified by β -Naphthanol. Abstract 612
 M. M. Abdel-Kader, Cairo (Egypt): Anisotropy of the Diamagnetic Susceptibility in 3,5-Dibromo-P-Aminobenzoic and 3,5-Dibromo-P-Hydroxybenzoic Acids. Abstract 612
 M. M. Abdel-Kader see F. El-Kabbany
 I. M. Ahmed see R. A. Rashed
 F. Ames, H.-J. Kluge, E.-W. Otten, B. M. Suri, A. Venugopalan, H. Rimke, N. Trautmann, R. Kirchner, and B. Eichler, Mainz and Dresden: Release Studies of Atomic Technetium. With 5 Figures 1
 E. Bangert see V. Latusek
 I. I. Bashter, F. M. Sayadahmed, and A. S. Makarious, Cairo (Egypt): Measured and Calculated Neutron Fluxes Emitted from Homogeneous and Heterogeneous Assemblies Using D-T reaction. Abstract 612
 P. Belkner and F.-J. Schütte, Potsdam: Polarized Bistability Due to Optical Feedback. With 4 Figures 337
 P. G. Bergmann, New York (USA): Remarks on Relativity and on Quantum Theory. Short Communication 415
 B. Bieniak, H. P. Hinske, H. Paulus, D. Zevgolis, and W. Demtröder, Kaiserslautern: Lifetime-Measurements of Selectively Excited Molecular Levels. With 5 Figures 15
 R. Blatt see R. Casdorff
 U. Bleyer, Potsdam: On a Lorentz Non-Invariant Generalization of the Dirac Equation 489
 H.-H. v. Borzeszkowski, Potsdam: Quantum General Relativity and the Meaning of $(R + R_2)$ Theories 558
 H.-H. v. Borzeszkowski see V. de Sabbata
 J. Brendel, R. Lange, E. Mohler, and W. Martienssen, Frankfurt/M.: Beam Splitting and Interference Experiments with Photon Pairs. With 11 Figures 26
 K. A. Bronnikov, Moscow (USSR): Charged Black Holes and Multidimensional Gravity 527
 R. Casdorff, V. Enders, R. Blatt, W. Neugebauer, and P. E. Toschek, Hamburg: A 12-GHz Standard Clock on Trapped Ytterbium Ions. With 12 Figures 41
 A. S. Cukrowski and S. Fritzsche, Warsaw (Poland) and Leipzig: Relaxation of Translational Energy in Binary Mixtures of dilute Gases Composed of Hard Spheres. With 2 Figures 37
 F. De Zela, Lima (Peru): On Possible Limits of a Gravitation Theory 269
 W. Demtröder see B. Bieniak
 O. F. Dorofeyef, B. A. Lysov, O. S. Pavlova, and I. M. Ternov, Moscow (USSR): A Singular Model of Electronic States, Localized over the Surface of Cryogenized Dielectric 387
 J. P. Dowling, W. P. Schleich, and J. A. Wheeler, Garching and Princeton (USA): Interference in Phase Space. With 19 Figures 423
 C. Eberlein, H. J. Kaiser, and E. Wieczorek, Leipzig and Zeuthen: Radiative Corrections to Non-Abelian Gauge Theory in Homogeneous Self-Dual Backgrounds. With 1 Figure 343

Author Index

Volume 48, 1991

- A. A. Abboud see M. A. Ibrahim
 A. A. Abboud see R. A. Rashed
 M. M. Abdel Hady see F. W. Abdel-Salam
 F. W. Abdel Salam, H. M. Hosny, and M. M. Abdel Hady, Cairo (Egypt): Types of field Compensations used to Alleviate the Beam Undulations in Long Period Magnet Focusing. Abstract 612
 S. S. Abdel-Aziz see A. Osman
 M. M. Abdel-Kader, F. El-Kabbany, S. M. Sayyah, S. A. Nasser, and E. H. El-Kalla, Cairo (Egypt): Effect of I^- -Radiation on the Dielectric Constant of PMMA Modified by β -Naphthanol. Abstract 612
 M. M. Abdel-Kader, Cairo (Egypt): Anisotropy of the Diamagnetic Susceptibility in 3,5-Dibromo-P-Aminobenzoic and 3,5-Dibromo-P-Hydroxybenzoic Acids. Abstract 612
 M. M. Abdel-Kader see F. El-Kabbany
 I. M. Ahmed see R. A. Rashed
 F. Ames, H.-J. Kluge, E.-W. Otten, B. M. Suri, A. Venugopalan, H. Rimke, N. Trautmann, R. Kirchner, and B. Eichler, Mainz and Dresden: Release Studies of Atomic Technetium. With 5 Figures 1
 E. Bangert see V. Latusek
 I. I. Bashter, F. M. Sayadahmed, and A. S. Makarious, Cairo (Egypt): Measured and Calculated Neutron Fluxes Emitted from Homogeneous and Heterogeneous Assemblies Using D-T reaction. Abstract 612
 P. Belkner and F.-J. Schütte, Potsdam: Polarized Bistability Due to Optical Feedback. With 4 Figures 337
 P. G. Bergmann, New York (USA): Remarks on Relativity and on Quantum Theory. Short Communication 415
 B. Bieniak, H. P. Hinske, H. Paulus, D. Zevgolis, and W. Demtröder, Kaiserslautern: Lifetime-Measurements of Selectively Excited Molecular Levels. With 5 Figures 15
 R. Blatt see R. Casdorff
 U. Bleyer, Potsdam: On a Lorentz Non-Invariant Generalization of the Dirac Equation 489
 H.-H. v. Borzeszkowski, Potsdam: Quantum General Relativity and the Meaning of $(R + R_2)$ Theories 558
 H.-H. v. Borzeszkowski see V. de Sabbata
 J. Brendel, R. Lange, E. Mohler, and W. Martienssen, Frankfurt/M.: Beam Splitting and Interference Experiments with Photon Pairs. With 11 Figures 26
 K. A. Bronnikov, Moscow (USSR): Charged Black Holes and Multidimensional Gravity 527
 R. Casdorff, V. Enders, R. Blatt, W. Neugebauer, and P. E. Toschek, Hamburg: A 12-GHz Standard Clock on Trapped Ytterbium Ions. With 12 Figures 41
 A. S. Cukrowski and S. Fritzsche, Warsaw (Poland) and Leipzig: Relaxation of Translational Energy in Binary Mixtures of dilute Gases Composed of Hard Spheres. With 2 Figures 37
 F. De Zela, Lima (Peru): On Possible Limits of a Gravitation Theory 269
 W. Demtröder see B. Bieniak
 O. F. Dorofeyef, B. A. Lysov, O. S. Pavlova, and I. M. Ternov, Moscow (USSR): A Singular Model of Electronic States, Localized over the Surface of Cryogenized Dielectric 387
 J. P. Dowling, W. P. Schleich, and J. A. Wheeler, Garching and Princeton (USA): Interference in Phase Space. With 19 Figures 423
 C. Eberlein, H. J. Kaiser, and E. Wieczorek, Leipzig and Zeuthen: Radiative Corrections to Non-Abelian Gauge Theory in Homogeneous Self-Dual Backgrounds. With 1 Figure 343

J. H. Eberly see R. Grobe	
B. Eichler see F. Ames	
F. El-Kabbany, S. Taha, and M. Tosson, Cairo (Egypt): Effect of Replacement of Ag^+ by Pb^{++} on the Vibrations of the Nitrate Group. Abstract	612
F. El-Kabbany, S. Taha, and M. M. Abdel-Kader, Cairo (Egypt): Electrical Properties of the Solid Solution AgNO_3 and $\text{Fe(NO}_3)_3$. Abstract	612
F. El-Kabbany see M. M. Abdel-Kader	
E. H. El-Kalla see M. M. Abdel-Kader	
A. El-Sayed Abdo see A. S. Makarious	
V. Enders see R. Casdorf	
A. Fernández, Miami (USA): Is the Distribution of Substrates in Biopolymer Folding Ultrametric? Short Communication	238
S. Fritzsche see A. S. Cukrowski	
K. Giering, Berlin: The Jump Problem in Fourth-Order Gravity	535
A. K. Gorbatsievich, Minsk (USSR): The Quantum Mechanical Interpretation of the General-Covariant Dirac Equation and the 8-Parametrical Group of the Spinor-Transformation	369
G. Grawert and St. Müller, Marburg: Semiclassical Coupled Channels Theory. With 6 Figures ...	69
W. G. Greenwood see R. Grobe	
G. Grimm, B. Hailer, and H. Stumpf, Tübingen: State Representations for Renormalized Energy Equations in Quantum field Theory	327
R. Grobe, C. I. Morre, Q. Su, W. G. Greenwood, and J. H. Eberly, Rochester (USA): Theoretical Experiments on Multiphoton-Assisted Electron-Atom Scattering. With 4 Figures	87
U. Grüner see H. Wollnik	
V. S. Gurin see A. P. Trofimenko	
B. Hailer see G. Grimm	
H. Haken, Stuttgart: Information Flow in Synergetic Computers	97
F. Hensel see H. Uchtmann	
E. Hernandez see A. Mondragon	
U. Herzog, Berlin: Intracavity Multi-Photon-Absorption and the Quantum Noise Spectrum of Light. With 2 Figures	594
H. P. Hinske see B. Bienia	
R. Horodecki, Gdańsk (Poland): Unitary Information Ether and its Possible Applications	479
H. M. Hosny see F. W. Abdel-Salam	
B. A. Huber see H. Lebius	
M. A. Ibrahim, R. A. Rashed, and A. A. Abboud, Cairo (Egypt): Study of the Presence of an Air Gap in a Fast Neutron Shield. Abstract	612
M. A. Ibrahim see R. A. Rashed	
D. Ivanenko, Moscow (USSR): Addendum to "Considerations on Unified Theory"	304
H. J. Kaiser see C. Eberlein	
B. Kämpfer see H. Reinhardt	
R. Kerschner and H. Stumpf, Tübingen: Derivation of Composite Particle Dynamics by Weak Mapping of Quantum Fields	56
R. Kirchner see F. Ames	
H.-J. Kluge see F. Ames	
H. R. Koslowski see H. Lebius	
F. Laloe see P. J. Nacher	
G. Landwehr see V. Latussek	
R. Lange see J. Brendel	
V. Latussek, E. Bangert, and G. Landwehr, Würzburg: Self-Consistent Calculations of Landau Levels for Symmetric p-Type Inversion Layers. With 5 Figures	394
H. Lebius, H. R. Koslowski, K. Wiesemann, and B. A. Huber, Bochum: Threshold Behaviour of Electron Impact Ionisation Cross Sections for Rare Gas Atoms. With 9 Figures	103

J. S. Levinger see R. Loucks	
G. Li see H. Wollnik	
D. G. Long, Massachusetts (USA): Relativistic Single Particle Kinetic Theory	305
R. Loucks and J. S. Levinger, Troy (USA): Separable Approximations to the Helium Trimer. With 2 Figures	115
B. A. Lysov see O. F. Dorofeyef	
R. M. A. Maayouf see A. S. Makarious	
A. S. Makarious, Cairo (Egypt): Effect of Reflectors on the Production of Capture Secondary Γ -Rays in Concrete Shields and Methods of its Suppression. Abstract	612
A. S. Makarious see I. I. Bashter	
A. S. Makarious, R. M. A. Maayouf, R. M. Megahid, and A. El-Sayed Abdo, Cairo (Egypt): Study of the Effect of Iron Loaded with B_4C on the Total Gamma Doses Emitted from Lami- nated Shield. With 4 Figures	263
W. Martienssen see J. Brendel	
R. M. Megahid see A. S. Makarious	
V. Metag, Gießen: Reaction Dynamics of Heavy Ion Collisions Studied by Hard Photon Emis- sion. With 14 Figures	121
P. Meystre, E. Schumacher, and E. M. Wright, Tucson (USA): Quantum Pendellösung in Atom Diffraction by a Light Grating. With 1 Figure	141
B. Mitra see K. P. Ghatak	
E. Mohler see J. Brendel	
M. Mondal see K. P. Ghatak	
A. Mondragon, E. Hernandez, and J. M. Velazquez Arcos, Mexico: Resonances and Ground States in Non-Local Potentials. With 1 Figure	503
C. I. Morre see R. Grobe	
F. Müller-Hoisen, Göttingen: Higher Derivative Versus Second Order Field Equations	543
St. Müller see G. Grawert	
P. J. Nacher, G. Tasevin, and F. Laloe, Paris (France): A Kinetic Equation for Quantum Gases	149
S. A. Nasser see M. M. Abdel-Kader	
W. Neugebauer see R. Casdorf	
G. Nienhuis and S. J. Van Enk, Utrecht (The Netherlands): Macroscopic State of Gases in a Light Field. With 3 Figures	169
V. M. Nikolaenko, Leningrad (USSR): The Gauge Weyl Invariant Gravitational Equation and its Class of Solutions	609
A. Osman and S. S. Abdel-Aziz, Cairo (Egypt): The Deformations Energy and Barrier Height of Super Heavy Nuclei. With 15 Figures	248
E.-W. Otten see F. Ames	
K. P. Ghatak, B. Mitra, and M. Mondal, Calcutta (India): Theoretical Analysis of the Einstein Relation in n -Channel Inversion Layers on $A_2^{III}B_5^{IV}$ Semiconductors under Magnetic Quan- tisation. With 5 Figures	283
T. Pacher and J. A. Stein-Schabes, Heidelberg and Houston (USA): On the Locality of the No Hair Conjecture and the Measure of the Universe	518
E. Papp, Clausthal: Quasiclassical $1/N$ Energy-Formulas for Relativistic Two-Body Systems ...	319
H. Paulus see B. Bieniak	
O. S. Pavlova see O. F. Dorofeyef	
I. Peschel and T. T. Truong, Berlin: Corner Transfer Matrices for the Gaussian Model. With 3 Figures	185
R. V. Popic, Belgrade (Yugoslavia): On the Origin of Spacetime Distribution of Quasars. III. The Model of Orbital Collisions. Abstract	612
K. Rademann see H. Uchtmann	
R. A. Rashed, I. M. Ahmed, M. A. Ibrahim, A. A. Abboud, and Z. A. El-Sady, Cairo (Egypt): Analytic Study of Fast Neutron Shielding by a Number of Multilayers. Abstract	612

R. A. Rashed see M. A. Ibrahim	
R. A. Rashed, A. A. Abboud, and M. A. Ibrahim, Cairo (Egypt): Simplified Expressions for the Fast Neutron Attenuation in Different Shield Thicknesses. Abstract	612
R. A. Rashed, M. A. Ibrahim, and A. A. Abboud, Cairo (Egypt): Study of the Neutron Propagation in a Certain Shield Material Separated by Two Air Gaps. Abstract	612
R. A. Rashed, M. A. Ibrahim, and A. A. Abboud, Cairo, (Egypt): Determination of an Attenuated Neutron Beam Through a Homogeneous Reactor Shield Assuming a Certain Energy Spectrum for the Source Neutrons. Abstract	612
H. Reinhardt and B. Kämpfer, Copenhagen (Denmark) and Dubna (USSR): Chiral Soliton Model with Dynamical Restoration of Chiral Symmetry from Quark Flavour Dynamics. With 3 Figures	241
Th. Richter, Berlin: Enhanced Nonclassical Spatial Intensity Correlations in Three-Beam Interference. With 1 Figure	570
G. Richter, Berlin: On Reflection and Transmission of Electromagnetic Waves Propagating Perpendicular to Plane Surfaces between Different Absorbing Media	579
Th. K. R. Richter, Greifswald: On a Graviton-Photon Hypothesis. Short Communication	422
H. Rimke see F. Ames	
V. de Sabbata and C. Sivaram, Ferrara (Italy) and Bangalore (India): Torsion as the Basis for String Torsion. Short Communication	419
V. de Sabbata see C. Sivaram	
V. de Sabbata, C. Sivaram, H.-H. v. Borzeszkowski, and H.-J. Treder, Bologna (Italy), Bangalore (India), and Potsdam: Quantum General Relativity, Torsion and Uncertainty Relations. Short Communication	497
F. M. Sayadahmed see I. I. Bashter	
S. M. Sayyah see M. M. Abdel-Kader	
G. Schäfer, Garching: Reduction of Higher Derivative Lagrangians	601
W. P. Schleich see J. P. Dowling	
E. Schumacher see P. Meystre	
F.-J. Schütte see P. Belkner	
C. Sivaram see V. de Sabbata	
C. Sivaram and V. de Sabbata, Lausanne (Switzerland): Strong Gravity and Strings. Short Communication	362
A. D. A. M. Spallicci, Noordwijk (The Netherlands): The Concept of Parageodesic Motions. Short Communication	365
J. A. Stein-Schabes see T. Pacher	
H. Steudel, Berlin: Forward-Backward Coupling in Superfluorescence	563
R. Stock, Frankfurt/M.: Pion Interferometry in High Energy Hadron and Nuclear Collisions: Radial Expansion and Freeze-Out. With 11 Figures	195
H. Stumpf see R. Kerschner	
H. Stumpf see G. Grimm	
Q. Su see R. Grobe	
B. M. Suri see F. Ames	
S. Taha see F. El-Kabbany	
G. Tastevin see P. J. Nacher	
I. M. Ternov see O. F. Dorofeyev	
S. Thattey, Bombay (India): A Connecting Link between Lorentz and Dirac Theories of Electrons	353
P. E. Toschek see R. Casdorf	
M. Tosson see F. El-Kabbany	
N. Trautmann see F. Ames	
H.-J. Treder see V. de Sabbata	
A. P. Trofimenko and V. S. Gurin, Minsk (USSR): White and Grey Holes in Higher-Dimensional Representation of Extended Space-Time Manifolds of General Relativity. With 2 Figures ...	295

T. T. Truong see I. Peschel	
H. Uchtmann, K. Rademann, and F. Hensel, Marburg: Metal-Nonmetal Transition and Homogeneous Nucleation of Mercury Vapour. With 3 Figures	207
S. J. Van Enk see G. Nienhuis	
J. M. Velazquez Arcos see E. Hernandez	
A. Venugopalan see F. Ames	
W. A. Wassef, Cairo (Egypt): Generation of Adaptive Endpoints and Construction of Diffusion-Like Neutron Distributions Based on a Proposed Exact Surface Flux Criterion for Slabs and Spheres. Abstract	612
J. A. Wheeler see J. P. Dowling	
E. Wieczorek see C. Eberlein	
K. Wieseemann see H. Lebius	
H. Wollnik, U. Grüner, and G. Li, Gießen: Time-of-Flight Mass Spectrometers with Grid-Free Ion Mirrors and Electron-Impact Ion Sources. With 11 Figures	215
E. M. Wright see P. Meystre	
D. Zevgolis see B. Bieniak	
W. Zickendraht, Marburg: Why Are Most Nuclei Axially Symmetric?	229

Subject Index

Volume 48, 1991

Cosmology

- K. A. Bronnikov, Moscow (USSR): Charged Black Holes and Multidimensional Gravity 527
 T. Pacher and J. A. Stein-Schabes, Heidelberg and Houston (USA): On the Locality of the No Hair Conjecture and the Measure of the Universe 518
 R. V. Popic, Belgrade (Yugoslavia): On the Origin of Spacetime Distribution of Quasars. III. The Model of Orbital Collisions. Abstract 612
 A. P. Trofimenko and V. S. Gurin, Minsk (USSR): White and Grey Holes in Higher-Dimensional Representation of Extended Space-Time Manifolds of General Relativity. With 2 Figures . 295

Elementary Processes in Plasma

- G. Grawert and St. Müller, Marburg: Semiclassical Coupled Channels Theory. With 6 Figures ... 69
 H. Lebius, H. R. Koslowski, K. Wiesemann, and B. A. Huber, Bochum: Threshold Behaviour of Electron Impact Ionisation Cross Sections for Rare Gas Atoms. With 9 Figures 103
 V. Metag, Gießen: Reaction Dynamics of Heavy Ion Collisions Studied by Hard Photon Emission. With 14 Figures 121

General Physics

- P. G. Bergmann, New York (USA): Remarks on Relativity and on Quantum Theory. Short Communication 415
 H. Haken, Stuttgart: Information Flow in Synergetic Computers 97
 R. Horodecki, Gdańsk (Poland): Unitary Information Ether and its Possible Applications 479
 D. Ivanenko, Moscow (USSR): Addendum to "Considerations on Unified Theory" 304
 Th. K. R. Richter, Greifswald: On a Graviton-Photon Hypothesis. Short Communication 422

General Relativity and Gravitation

- Q. Bleyer, Potsdam: On a Lorentz Non-Invariant Generalization of the Dirac Equation 489
 F. De Zela, Lima (Peru): On Possible Limits of a Gravitation Theory 269
 K. Giering, Berlin: The Jump Problem in Fourth-Order Gravity 535
 D. G. Long, Massachusetts (USA): Relativistic Single Particle Kinetic Theory 305
 F. Müller-Hoisen, Göttingen: Higher Derivative Versus Second Order Field Equations 543
 V. M. Nikolaenko, Leningrad (USSR): The Gauge Weyl Invariant Gravitational Equation and its Class of Solutions 609
 E. Papp, Clausthal: Quasiclassical $1/N$ Energy-Formulas for Relativistic Two-Body Systems ... 319
 V. de Sabbata, C. Sivaram, H.-H. v. Borzeszkowski, and H.-J. Treder, Bologna (Italy), Bangalore (India), and Potsdam: Quantum General Relativity, Torsion and Uncertainty Relations. Short Communication 497
 V. de Sabbata and C. Sivaram, Ferrara (Italy) and Bangalore (India): Torsion as the Basis for String Torsion. Short Communication 419
 G. Schäfer, Garching: Reduction of Higher Derivative Lagrangians 601
 C. Sivaram and V. de Sabbata, Lausanne (Switzerland): Strong Gravity and Strings. Short Communication 362
 A. D. A. M. Spallicci, Noordwijk (The Netherlands): The Concept of Parageodesic Motions. Short Communication 365

Interactions with Photons

- R. Grobe, C. I. Morre, Q. Su, W. G. Greenwood, and J. H. Eberly, Rochester (USA): Theoretical Experiments on Multiphoton-Assisted Electron-Atom Scattering. With 4 Figures 87

Mass Spectroscopy

- H. Wollnik, U. Grüner, and G. Li, Gießen: Time-of-Flight Mass Spectrometers with Grid-Free Ion Mirrors and Electron-Impact Ion Sources. With 11 Figures 215

Mathematical Physics

- C. Eberlein, H. J. Kaiser, and E. Wieczorek, Leipzig and Zeuthen: Radiative Corrections to Non-Abelian Gauge Theory in Homogeneous Self-Dual Backgrounds. With 1 Figure 343
 A. Mondragon, E. Hernandez, and J. M. Velazquez Arcos, Mexico: Resonances and Ground States in Non-Local Potentials. With 1 Figure 503
 I. Peschel and T. T. Truong, Berlin: Corner Transfer Matrices for the Gaussian Model. With 3 Figures 185

Measurement Sciences

- R. Casdorff, V. Enders, R. Blatt, W. Neugebauer, and P. E. Toschek, Hamburg: A 12-GHz Standard Clock on Trapped Ytterbium Ions. With 12 Figures 41

Molecular and Atomic Structure

- B. Bieniak, H. P. Hinske, H. Paulus, D. Zevgolis, and W. Demtröder, Kaiserslautern: Lifetime-Measurements of Selectively Excited Molecular Levels. With 5 Figures 15

Nuclear Physics

- I. I. Bashter, F. M. Sayadahmed, and A. S. Makarious, Cairo (Egypt): Measured and Calculated Neutron Fluxes Emitted from Homogeneous and Heterogeneous Assemblies Using D-T reaction. Abstract 612
 R. Loucks and J. S. Levinger, Troy (USA): Separable Approximations to the Helium Trimer. With 2 Figures 115
 A. Osman and S. S. Abdel-Aziz, Cairo (Egypt): The Deformations Energy and Barrier Height of Super Heavy Nuclei. With 15 Figures 248
 R. Stock, Frankfurt/M.: Pion Interferometry in High Energy Hadron and Nuclear Collisions: Radial Expansion and Freeze-Out. With 11 Figures 195
 W. Zickendraht, Marburg: Why Are Most Nuclei Axially Symmetric? 229

Nuclear Technology

- F. W. Abdel Salam, H. M. Hosny, and M. M. Abdel Hady, Cairo (Egypt): Types of field Compensations used to Alleviate the Beam Undulations in Long Period Magnet Focusing. Abstract 612
 M. A. Ibrahim, R. A. Rashed, and A. A. Abboud, Cairo (Egypt): Study of the Presence of an Air Gap in a Fast Neutron Shield. Abstract 612
 A. S. Makarious, Cairo (Egypt): Effect of Reflectors on the Production of Capture Secondary γ -Rays in Concrete Shields and Methods of its Suppression. Abstract 612
 A. S. Makarious, R. M. A. Maayouf, R. M. Megahid, and A. El-Sayed Abdo, Cairo (Egypt): Study of the Effect of Iron Loaded with B_4C on the Total Gamma Doses Emitted from Laminated Shield. With 4 Figures 263

- R. A. Rashed, A. A. Abboud, and M. A. Ibrahim, Cairo (Egypt): Simplified Expressions for the Fast Neutron Attenuation in Different Shield Thicknesses. Abstract 612
- R. A. Rashed, M. A. Ibrahim, and A. A. Abboud, Cairo (Egypt): Study of the Neutron Propagation in a Certain Shield Material Separated by Two Air Gaps. Abstract 612
- R. A. Rashed, M. A. Ibrahim, and A. A. Abboud, Cairo, (Egypt): Determination of an Attenuated Neutron Beam Through a Homogeneous Reactor Shield Assuming a Certain Energy Spectrum for the Source Neutrons. Abstract 612
- R. A. Rashed, I. M. Ahmed, M. A. Ibrahim, A. A. Abboud, and Z. A. El-Sady, Cairo (Egypt): Analytic Study of Fast Neutron Shielding by a Number of Multilayers. Abstract 612
- W. A. Wassef, Cairo (Egypt): Generation of Adaptive Endpoints and Construction of Diffusion-Like Neutron Distributions Based on a Proposed Exact Surface Flux Criterion for Slabs and Spheres. Abstract 612

Nucleation

- H. Uchtmann, K. Rademann, and F. Hensel, Marburg: Metal-Nonmetal Transition and Homogeneous Nucleation of Mercury Vapour. With 3 Figures 207

Optics

- P. Belkner and F.-J. Schütte, Potsdam: Polarized Bistability Due to Optical Feedback. With 4 Figures 337
- J. Brendel, R. Lange, E. Mohler, and W. Martienssen, Frankfurt/M.: Beam Splitting and Interference Experiments with Photon Pairs. With 11 Figures 26
- U. Herzog, Berlin: Intracavity Multi-Photon-Absorption and the Quantum Noise Spectrum of Light. With 2 Figures 594
- G. Richter, Berlin: On Reflection and Transmission of Electromagnetic Waves Propagating Perpendicular to Plane Surfaces between Different Absorbing Media 579
- Th. Richter, Berlin: Enhanced Nonclassical Spatial Intensity Correlations in Three-Beam Interference. With 1 Figure 570
- H. Steudel, Berlin: Forward-Backward Coupling in Superfluorescence 563

Polymer Physics

- M. M. Abdel-Kader, F. El-Kabbany, S. M. Sayyah, S. A. Nasser, and E. H. El-Kalla, Cairo (Egypt): Effect of γ -Radiation on the Dielectric Constant of PMMA Modified by β -Naphthanol. Abstract 612
- A. Fernández, Miami (USA): Is the Distribution of Substates in Biopolymer Folding Ultrametric? Short Communication 238

Quantum General Relativity

- H.-H. v. Borzeszkowski, Potsdam: Quantum General Relativity and the Meaning of $(R + R_2)$ Theories 558
- A. K. Gorbatsievich, Minsk (USSR): The Quantum Mechanical Interpretation of the General-Covariant Dirac Equation and the 8-Parametrical Group of the Spinor-Transformation 369

Quantum Theory

- J. P. Dowling, W. P. Schleich, and J. A. Wheeler, Garching and Princeton (USA): Interference in Phase Space. With 19 Figures 423
- G. Grimm, B. Hailer, and H. Stumpf, Tübingen: State Representations for Renormalized Energy Equations in Quantum Field Theory 327

R. Kerschner and H. Stumpf, Tübingen: Derivation of Composite Particle Dynamics by Weak Mapping of Quantum Fields	56
P. Meystre, E. Schumacher, and E. M. Wright, Tucson (USA): Quantum Pendellösung in Atom Diffraction by a Light Grating. With 1 Figure	141
H. Reinhardt and B. Kämpfer, Copenhagen (Denmark) and Dubna (USSR): Chiral Soliton Model with Dynamical Restoration of Chiral Symmetry from Quark Flavour Dynamics. With 3 Figures	241
S. Thattey, Bombay (India): A Connecting Link between Lorentz and Dirac Theories of Electrons	353

Solid State Physics

M. M. Abdel-Kader, Cairo (Egypt): Anisotropy of the Diamagnetic Susceptibility in 3,5-Dibromo-P-Aminobenzoic and 3,5-Dibromo-P-Hydroxybenzoic Acids. Abstract	612
F. El-Kabbany, S. Taha, and M. Tosson, Cairo (Egypt): Effect of Replacement of Ag^+ by Pb^{++} on the Vibrations of the Nitrate Group. Abstract	612
F. El-Kabbany, S. Taha, and M. M. Abdel-Kader, Cairo (Egypt): Electrical Properties of the Solid Solution AgNO_3 and $\text{Fe}(\text{NO}_3)_3$. Abstract	612

Statistical Physics

A. S. Cukrowski and S. Fritzsche, Warsaw (Poland) and Leipzig: Relaxation of Translational Energy in Binary Mixtures of Dilute Gases Composed of Hard Spheres. With 2 Figures	377
P. J. Nacher, G. Tastevin, and F. Laloe, Paris (France): A Kinetic Equation for Quantum Gases	149
G. Nienhuis and S. J. Van Enk, Utrecht (The Netherlands): Macroscopic State of Gases in a Light Field. With 3 Figures	169

Surfaces and Interfaces

F. Ames, H.-J. Kluge, E.-W. Otten, B. M. Suri, A. Venugopalan, H. Rimke, N. Trautmann, R. Kirchner, and B. Eichler, Mainz and Dresden: Release Studies of Atomic Technetium. With 5 Figures	1
O. F. Dorofeyef, B. A. Lysov, O. S. Pavlova, and I. M. Ternov, Moscow (USSR): A Singular Model of Electronic States, Localized over the Surface of Cryogenized Dielectric	387
V. Latussek, E. Bangert, and G. Landwehr, Würzburg: Self-Consistent Calculations of Landau Levels for Symmetric p-Type Inversion Layers. With 5 Figures	394
K. P. Ghatak, B. Mitra, and M. Mondal, Calcutta (India): Theoretical Analysis of the Einstein Relation in n -Channel Inversion Layers on $\text{A}_3\text{IIIB}_2\text{V}$ Semiconductors under Magnetic Quantisation. With 5 Figures	283

